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THE JOURNAL OF PHILOSOPHY

THE LOGIC OF THE CASE METHOD

THE successful employment of the "case method" as a pedagogical device in the Harvard Law School has been recognized, not only by its adoption in other law schools, but also by the employment of the "clinic" in medical education. This method reflects in some measure the process of accumulating, during the last few centuries, a body of case material in the British and American law reports and in the *Boston Medical and Surgical Journal*. Within recent years, the New York County Bar Association and the American Association of Engineers have published[1] their examination and interpretation of several hundred specific professional problems. The *Harvard Business Reports*[2] contain still further additions to this growing body of case material. It will be the purpose of this paper to examine certain logical presuppositions underlying the collection and utilization of such social data.

I

Since the case method is employed largely with reference to social situations, it is dealing with problems relatively more complex than are to be found in the natural sciences.[3] The relatively fixed character of physical objects and the relatively limited extent of natural events render them more amenable to experimental control; while the isolation of elements and repetition of factors available even to such non-experimental sciences as astronomy and geology are seldom attainable in social situations. All the complexities of the organic sciences are present in social relations, but the latter involve additional factors which result from the real or pretended control which human beings assume over nature and over each other. Interests, prejudices, errors of judgment, whims and caprices, all enter into social situations, making them reflexive and involved. For example,

[1] *Questions Respecting Proper Professional Conduct*, 165 Broadway, New York, "Practice Cases," *Professional Engineer*, 63 East Adams Street, Chicago, respectively.

[2] A. W. Shaw Company, Chicago, 4 vols., 5th vol. now in preparation.

[3] See Thomas' excellent "Methodological Note" introducing Vol. I of *The Polish Peasant in Europe and America*. The works of Lévy-Bruhl and Durkheim are, of course, basic.

quotations of the New York Stock Exchange reflect business conditions, but they also reflect judgments as to such conditions and they can to a certain extent be manipulated so as to affect the business conditions and judgments of which they are supposed to be symptomatic. So also a book may "aim to develop a method of forecasting conditions" in the iron and steel industry, but the knowledge disseminated by the book may appreciably change conditions, at least so as to make the analysis contained in the book inadequate to just the extent of failing to take that knowledge into account.

Two major paradoxes confront the student of social phenomena. The abstraction and economy of factors necessary to a thorough observation, let alone experimental manipulation, of particular situations render these socially unreal; any attempt at repetition or comparison for purposes of verification or generalization being subject to the same limitation. Secondly, the "detached" attitude which the natural scientist regards as indispensable to the validity of his results, and which he in considerable measure achieves, is opposed to any intimate or thoroughgoing knowledge of human affairs. Historian-politicians, like Roosevelt or Lodge, or financiers, like Henry Clews, who are "inside" the human drama, alone can tell the real story; but when they essay a "plain, unvarnished tale" they must be held suspect, for their wishes may have become fathers to deeds which, whether legitimate progeny or not, have nevertheless pragmatically appeared on the scene.

Although these difficulties have long been recognized, students of social phenomena frequently become envious of the exemplary simplicity and methodological rigor of the natural sciences. One unfortunate result has been a premature adoption of the name—one nowadays takes for granted the term "social sciences"—without a compensatory achievement of the substance. A more serious effect of stressing the analogy has been the attempt to make these social "sciences" walk on all fours—and often at sixes and sevens, as in the perversion of "statistical" and "laboratory" methods—in slavish imitation of methods which are not only inapplicable and viciously deceptive, but fruitless and even derogatory to the more important possibilities of social inquiry.

II

The "case method," although sometimes unfortunately heralded as a panacea, has made a unique and important contribution to the problem of social methodology. Its peculiar and essential characteristic is that it accepts a certain description of a situation as a "fact." In the natural sciences description is merely an incidental symbol of the object or event to which it refers; any discrepancies disclosed

by a further "appeal to the facts" call for a correction of the symbols. In the social studies there will always be a greater variance in the descriptions given of phenomena, for there is never an identity among the points of view nor agreement as to the extent and context of the situation or the relative importance of the factors. Hence the need of some identical ground, factual or descriptive, as a basis for interpretation. The description of the social phenomenon, preferably written and either generally accepted as appropriate or officially declared to be so, satisfies this requirement of identity. Furthermore, the description becomes a sufficient substitute for the phenomenon: for not only does it bar further inquiry into the "actual" events which gave rise to the description and which are now irrevocable anyway, but as is specifically the rule in law, "a fact is no longer a fact after a duly constituted court has found to the contrary."

Illustrations of what is here referred to as "description" are abundant in the law; one will suffice. In the so-called New England Oil Cases, the receivers had submitted to the Court a printed plan for reorganizing a company and had secured the sanction of the Court for proceeding according to this plan. When, however, it was later disclosed that the receivers had not followed the plan, but had proceeded in a self-interested way detrimental to the stockholders, the Court refused to sanction their procedure in spite of the fact that certain typewritten documents, appended to the plan, anticipated to some extent the procedure actually followed. Asserting that "the printed plan controls,"[4] the Court, although it had not specified the administrative details of the plan, denied that the typewritten documents represented a fair and equitable interpretation of the plan. Listing the "documents of controlling importance,"[5] the Court enumerated among other items: (3) the printed plan of reorganization and (6) the report of the receivers upon the plan of readjustment; the typewritten additions to the plan were not listed. And because (6), in spite of its compatibility with these typewritten additions, was inconsistent with (3), the Court insisted that the receivers revert to the printed plan and make proper restitution to the defrauded creditors.[6] The method is not new; it has, however, so obviously become the proper method in certain forms of social thinking that we have failed to apply it to others. In all social methodology, an accepted and preferably printed description of a phenomenon, whether diagnostic or prognostic, is the factual basis upon which all scientific inferences and procedures rest.

[4] *Parker vs. New England Oil Corporation*, 4 Fed. 392, 395, (N. S., 1924).
[5] *Ibid.*, 8 Fed. 392, 394, (N. S.), where the case is continued.
[6] 8 Fed. 392, 401.

III

Who is capable of so well formulating the descriptions of social events as to secure the agreement of others? Practically this is what judges have been doing for centuries, partly by virtue of their authority, partly with the aid of a rigorous procedure to the development of which they have themselves contributed, but partly also by virtue of a trained intuition, so well exemplified in Chief Justice Marshall and Mr. Justice Holmes. And in the absence of the authoritarian element, particularly in business relations, it is this procedure and this insight which have more recently been recognized as necessary to, and present in, the systematic development of professional and business ethics, the intuitive factor manifesting itself especially in the evaluations which must follow and which are based upon the necessary comparisons and distinctions. Recognized professional and business leaders are assuming the responsibility of formulating their group interests and social functions.

That this "expert" rôle is guilty of the fallacy of circular reasoning—opinion selects and sanctions the experts who in turn modify and control opinion—would be true only if "opinion" here represented an identity of terms. This identity is no more exactly and persistently present in the social process of formulating and administering expert judgment than it is in the familiar "hen and egg" paradox or in the field of art criticism. Indeed, this observation applies equally well to natural scientists, when, e.g., they discover canals on Mars or sensitiveness to music in metallic tin. Furthermore, when we view the broader phases of social or natural phenomena, it is difficult to distinguish between the intuitive power of a Christ or a Buddha and that of a Newton or an Einstein.

These broader revolutionary re-orientations are duplicated in miniature in every single act of judgment worthy of the name. The problem of "expert" testimony and judgment arises in each particular case. Not only is the perception of social events colored by intuitive insight, but the interpretative judgment practically becomes part and parcel with the statement of the case. The clear-cut distinction between "fact" and "interpretation" required by the natural sciences is frequently impossible in recording social events and is often undesirable. One should become suspicious of those who, like the chancellors of former days, declare their will to be "the will of God," or of those who assert their interpretation of the Constitution to have historic validity. An honest admission of the integral part played by expert as well as by other kinds of opinion in social phenomena is necessary to an accurate as well as adequate social methodology. The case thus serves as an instrumental medium

between the "actual" phenomena and those rules and principles which form the abstract or ideal legal or ethical system.

It is on this point, of the relation of opinion to social facts, that the distinction must be made between the employment of the "case method" as a pedagogical device and its use as an instrument for generating a science of social phenomena. The question as to whether opinions or commentaries or decisions are or are not to be included in the descriptive case material confronts the student of educational policy, and his decision will be determined by his view as to the possible "transfer" of learning or as to the relative importance of content and mental discipline. The authors of some twelve or fifteen case books on business problems [7] have deliberately avoided including comments. The cases are so arranged and presented, however, as to secure to some extent in the student's mind a nuclear content and a sense of continuity and development of business practice. Mr. Cox's case book in ethics [8] includes the judicial opinions, but no ethical comments. Opinions are thus more freely elicited from students, the instructor can then add his own comments, and the business or judicial or ethical decision may be withheld altogether or postponed to the latter part of the discussion. The livest classroom discussions can be elicited from cases which have just arisen and which have not yet been decided by anyone.

In the employment of the case method, another essential distinction between classroom use and the empirical treatment of reports is discoverable especially in the attitude toward relevance. The classroom teacher may resort to such artifices as could not be tolerated in case reports: introducing red herring trails of nonpertinent material, confusing hypothetical and categorical statements, and withholding or delaying the real facts or the actual decisions. In a scientific case report system, however, the compelling necessities are the adequate, economical, and balanced treatment of descriptive factors. In the British and American law reports, moreover, the decisions are integral and essential parts of the cases; so likewise in the cases of professional and business problems dealt with by the New York County Bar Association and the American Association of Engineers, and in the *Harvard Business Reports.*

IV

The importance of including the decision in the case becomes further apparent when viewed with reference to the rule of *stare decisis.* The judge theoretically can not legislate; he must "find"

[7] A. W. Shaw Company, Chicago.

[8] *The Public Conscience,* Henry Holt, New York.

the law and apply it to the new situation which has arisen. But in applying the concepts of the law or of professional practice to the facts of human experience he is faced with the problem of relating the universal to the particular. At law some cases are the first to arise under a recent statute, but usually the case resembles some previous case on which a ruling has been given. To determine the common underlying elements, whether of statute and case, or of precedent and case, calls for definitions and interpretations which contribute to the growth of an existing body of doctrine. The law thus becomes an organic instrument sensitive to social changes, but modifying and controlling them. It is inevitable that the resulting judgment, involving both understanding and interpretation, will be colored by the concepts already developed in the social or legal system; while the concepts, themselves an interlarding of fact and interpretation, become modified in view of their applying or not applying to the situation, by their inclusion or exclusion of the case as an instance.

This is just what happened in the origin and historical development of case law. Henry Bracton,[9] the father of case law, not only exhibited rare insight in selecting representative cases—he collected only a few hundred, covering a period of some 20 years,—but he included the decisions as an essential part of the cases. Furthermore, he did not scruple to criticize these decisions for their failure to bring out the underlying principles. Those who favor the pedagogical policy of excluding decisions from cases do so in order to safeguard the independence of student criticism. But such decisions are essential to the development of the body of law or of recognized professional practice. And students of social phenomena should fear no more than Bracton did to allow the "rapier of reason"—Mr. Powell's delightful phrase—"to pierce the ermine." This critical attitude is the final step of the series of acts, beginning with a careful selection of cases, establishing a workable continuity[10] between the particular case and the universal concept.

In the process of seeking a precedent for the particular case which is before the court or before a professional practice committee, *stare decisis* stresses the authoritarian element in the previous decision. The normative character of law and professional ethics, furthermore, encourages the syllogistic form of reasoning. But business policies can not be so determined any more than can medical practice, for these problems are administrative rather than litigious

[9] See Maitland, *Bracton's Notebook*, intro. He quotes, p. xix, Vinogradoff's letter to the *Athenæum*. See also Lee, *Historical Jurisprudence*, pp. 483 ff.

[10] See, on this point, "'Contiguity' and 'Sufficient Reason,'" this JOURNAL, Vol. XXIII, pp. 407 ff.

or adjudicative. Historical inquiry discloses, however, that the rule of *stare decisis* was prevalent during the Middle Ages in all departments of thought, including economic and medical theory. Its presence today, in law and in professional ethics, is therefore not necessarily indicative of a modern positive impulse,[11] nor does its absence elsewhere point to the contrary. Indeed, its presence elsewhere, e.g., in theology and education, as well as in business and medicine, frequently exhibits the useless and even harmful characteristics of a vestigial organ. This observation does not warrant an unqualified condemnation either of the rule of *stare decisis* or of the case method with which it is related. But it is offered as a critique of the situation. The rule works better at certain times and in some fields of activities than it does in others, it has its place and it has a history. And the successful employment of cases as a pedagogical device is not to be confused with the possibility of integrating cases into a systematic body of accepted and successful business or medical practice, although it may in some measure influence the way in which that objective is to be attained in whole or in part.[12]

V

The question arises, How far can one pursue the analytical-functional interpretation of principles which is implied in case material? Aristotle wrestled with the problem and concluded that science should "neglect nothing" in its observations and should then by insight seek to change the status of elements, even if they appear to be insignificant, from that of accident to that of differentia. In art this principle leads to the view that "Beauty is as beauty does"; in the social-ethical field it easily led the Hebrews into casuistry, a labyrinth in which the case method of medieval church and guild, especially when it was obsessed with the nominalistic point of view, became hopelessly desiccated. Although the extreme functional view would treat the sum total of cases as equivalent to the principles, the more moderate view of Bishop Pecock[13] was that the cases at least must supplement the declaration of principles in order to clarify the latter and to supply their inadequacies. Certainly a *Real-ethik* can accept nothing less than this.

The Law recognizes at least three levels of generality, principles,

[11] See Nathan Isaacs, "How Lawyers Think," *Columbia Law Review*, Vol. XXIII, p. 559.

[12] See on this point, W. B. Donham, "Business Teaching by the Case Method," *American Economic Review*, Vol. XII, No. 1, 1922, especially in regard to the related problems of classification and codification.

[13] See Tawney: *Religion and the Rise of Capitalism*, p. 50, and note.

rules, and cases. These three levels tie into one another fairly readily, although no one of them exhausts the possibilities implied by the other two. Professional and business ethics, as practically developed in recent years, recognizes two of these levels, but has been characterized by a consequent dualism between sentimental "codes" on the one hand and casuistic "cases" on the other. The latter extreme is particularly inexcusable in view of the fact that the cases so far formulated number less than those which Bracton himself collected without going to such an extreme of particularity. The *Harvard Business Reports* have been more carefully selected and are more adequately representative of typical situations, but the commentators have become increasingly cautious as to the enunciation of "principles" and the setting of precedents. This attitude, warranted to some extent by the nature of business problems, confines the decision to the facts *as presented* in the particular case. This extreme particularization has occurred in the law, but largely by virtue of the "combative" theory of litigation which restricts the facts to such as are presented by the opposing litigants. This makes it all the more necessary, in the development of a system of business practices, that the case be carefully selected from "seasoned" practice.

Whether there is any necessary connection between the hypothecating of cases and casuistry,[14] it is difficult to say. But no one can deny their coincidence in Leviticus, in Druid law, and in many canon and guild regulations of the medieval period. The vital quality of real, as opposed to hypothetical, cases becomes apparent to anyone who employs them in a classroom. The fact that law courts have refused to entertain hypothetical cases or to interpret statutes prior to the bringing of actual and pertinent cases, has had much to do with the convincing quality of judicial decisions and the building up of an organic body of law. True, the courts will entertain hypothetical questions, and recently have tended to do so more and more; but only in connection with other facts and in relation to real litigation. Given an unbridled opportunity to concoct hypothetical cases, the courts might have more completely exhausted the possibilities of human conduct, in spite of crowded dockets; but the dangers of attempting to anticipate and outstrip reality have been too apparent. This judicial caution could well be imitated by such impatient social groups as contemplate a millennium in their attempted control of professional or business practices. Like English gardens and the golf-greens of Scotland, these require centuries of careful attention before they will be worthy of confident use and encomiums.

[14] See Dr. Richard C. Cabot's introduction to Cox, *The Public Conscience*, p. xiii.

The hypothetical question can easily assume a form which places it in the penumbral class consisting further of *obiter dicta* and minority judicial opinions. The law of parsimony would call for economy in the inclusion of such details, hypothetical as well as casuistic, in the interest as well as paradoxically at the expense of reality. One might suppose that the modern evolutionary view of survival would afford a hope that such concoctions and details would inevitably be eliminated in the struggle for survival. But the dominant characteristics of a sturdy organism can sweep along with them many integrated factors that are useless and even harmful. Just so with the case, which ideally would involve merely a single issue and its pertinent factors, but which actually never presents a simple situation. Hence details which are insignificant or non-pertinent must be disregarded, making the case to that extent abstract, or they may elicit observations which come to have an important and perhaps even dangerous bearing on future situations; and chaste abstraction is preferable to pregnant hypothetical concoction.

VI

Although the technique of manipulating and controlling human activity is not properly a part of the logic of social studies, performance and the sanctions which secure it are methodological implications of the functional interpretation of case material. A characteristic of early Christianity was its emphasis on the *doing* of the right rather than on the mere *knowing* of it, and the Greeks recognized the necessity of a doctrine of practice, or "deontology," as a complement to abstract theory. We can not, however, in a paper of this scope, deal with the technology of eliciting or controlling human behavior, which is a problem of ethics rather than of logic. But there is something to be said for a sanction which seems to be intimately connected with the development of case material. Knowledge of, familiarity with, concrete elaborations of principles secures their acceptance to a degree which reduces to a minimum the necessity of relying on the "sheriff and his posse" for the execution of a court order or of using the grosser professional or business sanctions. Through this medium it becames possible to "reason with" a person in order to convince him or society as to a course of conduct. Thought, when it so deals with specific case-forms, must divest itself of many of its sentimental and hypocritical garments. Professional "principles" and business "codes" too often are merely delightfully ineffective sublimations of corrective needs, applying a much-needed salve to the pricks of conscience or to the irritations of an aroused public. Cases, however, have a way about them of clearly indicat-

ing what the situation calls for, and they exhibit their most characteristic and powerful contribution in this functional test.

When one considers broader social conditions, however, one may seriously question the educational value of the case method. The Englishman, for all his common law practice and case thinking, has not acquired a reputation for that clarity of thought which is held to be the objective of the case method and its pedagogical justification. But it is the United States of America, with its century of legal discipline in the case method in addition to a materialistic and pragmatic attitude, that presents the puzzle. How is it that with such a background and training, we allow our policies—internal with reference to industrial and agrarian legislation, or foreign, with reference to our relations with Russia and China, for example, —to be determined almost wholly by prejudice or sentiment, with no seeming regard for the specific implications of a policy of *Realpolitik?* Our legislative acts, in view of their non-enforcement, are abstract rather than concrete universals. This trait appears particularly prominent by contrast with the clarity of Latin thought. At Versailles Clemenceau always agreed "in principle" with the American suggestions, but constantly discovered unexpected implications or such as were at variance with those ineffably intended. In our dealings with Mexico it is apparent to any perspicuous reader that the American oil claims are general and absolute to the point of being meaningless, while Mr. Morrow's recent use of the term "sovereignty" carries implications which flatly contradict them; the "functional" interpretations of the Mexican government much more clearly anticipate the working out of the problem. Now, France and Mexico are Civil Law countries, relying on codification and administrative interpretation rather than on case law for growth. Evidently the case system, which has grown up in the Common Law of England and America, is not by itself a sufficient basis for developing logical exactness and completeness or for engaging in pedagogical enthusiasms.

The solution of this paradox comes back to the process of description. The clarity of French thought is well exhibited in the *procès verbaux,* the authentic written minutes or reports of an official act or proceeding.[15] This "flesh-and-bones" definition does not do justice to the spirit of the *procès.* The exactitude and luminosity with which scribes recorded the transactions of the committee which formulated the *Code Civile* were at once symptomatic of the thought-processes of the committee and at the same time were generative of later clear legal thinking. It is doubtful whether we have

[15] See Pierre Crabites, "Napoleon Bonaparte and the Code Napoleon," 13 *Amer. Law Journal,* 439; August, 1927.

this mental facility in America, and it is still a matter for the future to determine whether an effort on our part to think clearly will have either immediate or far-reaching results. We may at least speed up the process and anticipate what seem to be desirable but long-delayed results by intelligently developing appropriate methods. The case method offers at present a field, at least for empirical, and possibly for fruitful experimental, study. Its basic prerequisite is the accurate and adequate description of a social fact.

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NECESSITY

MANY of the discussions which have occurred in connection with the problems of freedom *versus* determinism, necessity *versus* contingency, uniformity *versus* chance, etc., have labored under an unsatisfactory definition of the terms involved. This is not surprising when one realizes the various ways in which these terms may be justifiably employed. But it is essential to any sound conclusion that these many meanings be sharply differentiated. *Quaternio terminorum* is one of the commonest as it is one of the most insidious of fallacies.

This paper is an attempt to differentiate as clearly as possible some of the outstanding meanings of the term "necessity." The term applies, as we shall see, primarily to elements of knowledge rather than to events. The word "concept" will be used throughout this discussion to designate an element of knowledge, i.e., to include both concepts proper (simple, unanalyzed concepts) and complex concepts (propositions, laws, generalizations).

1. *Subjective-subjective Necessity.*—A concept is necessary if it follows by accepted processes of deduction from other concepts which are themselves accepted as true in one of the many meanings of the word, e.g., self-evident, postulated, "convenient." The truth of the original concepts is conveyed to the derived concepts. Let us characterize the derived concepts as *formally necessary* in this case. There are at least three types of formal necessity. If the conceptual system is built up on the basis of classes, the implicative relation will generally be that of class inclusion, or from species to genus. Let us call this a *formal necessity of class inclusion.* If the conceptual system is an efficient causal system, so that given the concept of the cause with the addition of the time element we may infer the concept of the effect, then the type of formal necessity may be called a *formal causal necessity.* In a strict causal conceptual system this implicative relation is reversible so that from the concept of the

cause earlier we may derive the concept of the effect later, or from the concept of the effect later we may infer the concept of the cause earlier. In other words there is neither plurality of causes nor plurality of effects in a strict causal system. The reversibility of this relation, together with the fact that the concept of the effect frequently has an additional element of value, introduces a further kind of formal necessity which might be called a *formal instrumental necessity*. Whenever in an efficient causal correlation the effect possesses value, then the cause-effect correlation may also be interpreted as a means-end correlation. In this case the realization of the final value of the effect is dependent upon the realization of the instrumental value of the cause. We express this by saying that the cause is necessary as a means to the effect which is an end. In a properly developed final causal system, it will always be possible to derive by logical implication the means from the end. In this case the concept of the means possesses instrumental necessity.

2. *Objective-subjective Necessity.*—This type of necessity occurs in two forms, in both of which cases the concept may be said to possess necessity by virtue of the "compulsion exercised by the objective or real upon the thinker."[1] The first and the simpler of these two forms might be called experiential necessity. A concept is *experientially necessary* when the fact which constitutes its reference is directly given in perception. Facts, we say, are stubborn, events are what they are, we can not think the world other than it is. This applies either to descriptive laws (empirical generalizations of the enumerative type) or to assertions of particular fact. The sun is necessarily shining to-day, for example, because I find it impossible to believe otherwise. It should be pointed out that we do not attribute the necessity to the event, but to the assertion about the event. The sun does not possess the attribute of "being necessarily shining," but the proposition, "the sun is shining to-day," is a necessary proposition at the time when it is asserted. The second of the two forms of objective-subjective necessity has to do with the empirical basis for the logical relation of implication. When a given relation between events occurs repeatedly, the proposition expressing this repeated occurrence possesses a double necessity. It possesses the simple experiential necessity in the sense that we are compelled to believe in the existence of the correlation wherever it has occurred. But it possesses another type of necessity which might be expressed by saying that "it always happens this way." Thus the simple concepts which go to make up the proposition or law become necessarily related in such a way that we affirm an implicative relation between them of one of the three types suggested

[1] W. E. Johnson, *Logic*, Vol. 1, p. 60.

under the first meaning of necessity, i.e., an implicative relation of class inclusion in which case we have what is usually called an analytic *a posteriori* judgment (sometimes designated a descriptive law), an implicative relation of efficient cause, in which case we have an efficient causal law, or an implicative relation of means to end, in which case we have a purposive or final causal law. This type of necessity might be defined as follows: a concept is necessary when it expresses universally a correlation which is found to hold in many cases and without exception. For the purpose of differentiating this from the other type of objective-subjective necessity, it may be called *inductive necessity.*

3. *Subjective-objective Necessity.*—Given the conditions for formal necessity (an implicative system) together with an instance of the implicans, then the particularization of the implicate is necessary. This is the ordinary *modus ponens* of the hypothetical syllogism in which the minor premise is a singular proposition. It may be called a *necessity of particularization* where particularization is a name for the process through which a concept, by virtue of having taken on limiting attributes, becomes exemplified in a corresponding event. Thus if you tell a friend that you "will meet him in Times Square at noon to-morrow," the essential thing about this assertion is the particularization of the concept "yourself at Times Square noon to-morrow." Now if such a particularization is necessary due to the existence of a formal conceptual system and the occurrence of an implicans of that system, then we have a necessity of particularization. Two things must be pointed out with regard to this type of necessity. In the first place it depends upon the subjective-subjective necessity. The necessity with which the implicate must be particularized is no greater than the necessity with which the implicate follows from the implicans. In the second place it is not the event itself which is necessary in this sense, but rather the particularization of the implicate. This particularization is necessary because the implicate takes on as a result of the implicative relation the spatio-temporal determination of the implicans. For example, we have a causal conceptual system "friction causes heat," which for the moment we may suppose to be a strictly necessary system. As a result of the occurrence of the implicans the formal relationship becomes "friction here now implies heat here soon." Thus the concept of heat takes on the additional modifiers "here" and "soon" by virtue of which it becomes necessarily particularized. The event itself is not necessary as can be easily seen from a few considerations. We say that the *occurrence* of the event is necessary, not the event itself. Furthermore we speak of the occurrence of the event as being necessary before the event does actually occur; but an event

could hardly be necessary before it occurs, for there is nothing to which we may attach the attribute of necessity. Again we speak of the occurrence of an event being necessary even though our expectation that the event will occur is not fulfilled. Certainly in this case the event does not possess the attribute of necessity. Thus the subjective-objective necessity remains in a certain sense a subjective-subjective necessity, for, although it is a necessity which reaches outward, it is still a necessity of concepts.

4. *Objective-objective Necessity.*—An event is necessary when another event compels its existence; this is the necessity of objective causal connections. I shall try to show that it is only a supposed necessity and can be reduced to a combination of the other types of necessity. For if an event is objectively necessary it must be so either by itself or by virtue of its relation to another event. Now the only sense in which an event can be necessary by itself is the sense in which whatever exists is necessary. But this either makes necessity synonymous with existence, or else involves an implicit assumption of "the unity of things" in which case necessity has become a relation of the event to the totality of events or to one among this totality. So that an event must possess necessity because of its relation to something else. But no relation, having occurred only once, can be characterized as necessary; necessity is an attribute of relation only as a result of its repeated occurrence. Any given relation is simply what it is—a relation of temporal coexistence or temporal succession, a relation of spatial distance or spatial direction, a relation of similarity, etc. But when any one of these relations occurs repeatedly, as was shown above, it exerts upon the mind a certain degree of compulsion and results in the formulation of this repeated occurrence in a law. The law is simply a shorthand way of saying that the correlation repeats. The law then possesses experiential necessity in the sense that we are compelled to believe it as an expression of all observed cases, and inductive necessity in the sense that we are compelled to infer, under the pressure of the large number of observed cases, a necessity of formal implication between the concepts designating the occurrences. Now the necessary relation which is supposed to hold between the events becomes an inference from the formally necessary relation between the concepts. Thus the connection between the events is necessary because the law is necessary, and the law is necessary because the occurrences are repeated. Putting it roughly we may say that the experiential necessity passes into inductive necessity; this becomes formal necessity; formal necessity when combined with an instance of the implicans is transformed into subjective-objective necessity, and the result is the attribution of necessity to the event itself. Hence

objective-objective necessity, though it may be supposed to have a status independent of mind, is analyzable into the subjective types.

Corresponding to these three fundamental meanings of the term "necessity," there are three senses in which a concept is lacking in necessity.

1. A concept is lacking in necessity when it does not follow by accepted processes of deduction from other concepts which are themselves accepted as true. There are three sub-cases here. (These are not to be correlated with the three types of formal necessity, but are rather three different ways in which each of the types of formal necessity may fail.) A concept may not follow from other concepts (*a*) because we are ignorant as to those more fundamental concepts, (*b*) because there are no concepts which are more fundamental, (*c*) because we do not *choose* to perform the operations involved in deriving our given concept from its basis. Let us consider each of these.

1*a*. It is impossible to look upon a concept as formally necessary if we do not know from what more fundamental notions it may be derived. The 47th proposition of Euclid is not necessary unless we see its basis in previous propositions. The jumping of the electrons from one ring to another is not necessary unless we know of a concept of a more fundamental nature (its cause) from which it may be deduced. Honesty is not necessary to success unless we can derive the notion of honesty as an instrument from the concept of success as an end. This is one of the many meanings of the word "chance," i.e., ignorance as to cause—formal, efficient, or final. A concept which is lacking in necessity in any one of these three senses is not permanently so. For the desired basis may be found upon further examination, or, failing this, it may be invented by the fictional activity of the mind. Such a stage is found in the development of every science; it is a stage in which our knowledge is spoken of as "empirical" rather than necessary, where by empirical we mean a necessity which, due to the obstacles arising in the acquisition of knowledge, is incompletely attained.

1*b*. A concept is lacking in formal necessity if it has no basis in more fundamental notions. This is more definitely negative than the preceding case, for it involves absence of basis rather than ignorance as to basis. Such an attitude toward a given concept is definitely incompatible with the view which attributes to it formal necessity. But the issue is definite and the burden of proof rests on the shoulders of the one who affirms the necessity. The only answer to the assertion that there is no basis is to reveal that basis.

1*c*. A concept is lacking in formal necessity if we do not choose to perform the operations involved in deriving it from its basis.

This is one of the most interesting senses in which a concept lacks formal necessity even though it is an element in a rigid deductive system. For every deductive system involves operations. An operation is an action which conforms to a rule. But an action may or may not be performed. A deductive system says essentially this: given certain fundamental notions and certain fundamental operations, if you perform the required operations according to the required rules upon the fundamental notions, you must obtain such and such a result. But if I refuse to perform the operations, the cogency and therefore the necessity of the deductive system is lost. Euclid is not necessary to the stubborn school boy who refuses to make the required constructions. This is one of the senses in which deduction may be said to give us *new* knowledge. Hence every concept, though an integral part of a deductive system, contains an element of contingency.

2. A concept is lacking in experiential or inductive necessity when the compulsion of the real upon the thinker is short of absolute. A notion which is lacking in either of these types of necessity is usually spoken of as being more or less probable according to the degree of compulsion exerted. With regard to propositions possessing only experiential necessity, i.e., assertions of single fact, there seems to be no way of measuring the degree of compulsion, though in most cases it is possible to eliminate the inferred material by a critical skepticism and to reduce the "given" to a minimum concerning which we may be relatively certain. Propositions possessing inductive necessity as well, i.e., assertions of universal connections, usually fall short of absolute necessity and are more or less probable. This is the sphere for the application of the inductive theory of probability in which Keynes, Russell, and Nicod have been active. Here the degree of probability may be measured and one may arbitrarily postulate any desired probability, say 99/100, as equivalent to practical necessity.

3. A concept is lacking in subjective-objective necessity when it fails to fulfill one or the other or both of the conditions presupposed in this type or necessity. More specifically, granting the presence of the first condition, i.e., formal necessity (concepts lacking formal necessity were examined above), a notion may be lacking in subjective-objective necessity (*a*) because an occurrence of the implicans is lacking, (*b*) because we are ignorant as to the occurrence of the implicans, (*c*) because thought can not determine things. Let us examine each of these.

3*a*. The arguers for freedom commonly emphasize the fact that every scientific law is merely *hypothetical*, that it is compulsory only when there are instances of the antecedent. Furthermore, since the

instances of the antecedent are usually produced by the free action of an individual, freedom is a fact. Regardless of the success with which this argument demonstrates freedom, it does introduce a distinct limitation into the necessity of a conceptual system. Any element of the system is necessary only as an element of the system, i.e., is only formally necessary, and it does not convey this necessity upon events in a pure form. The necessity with which any event occurs is contingent upon the occurrence of another event which is itself undetermined. If this other event is lacking, the necessity is entirely destroyed or at least reduced to a purely formal necessity. Falling to the pavement follows necessarily from leaning too far out of the window. But, of course, one need not lean out of a window. In a word, the occurrence of an event is lacking in necessity because it possesses a necessity which is only contingent.

3*b*. When we are ignorant as to the occurrence of the implicans we commonly refer to the occurrence as a chance happening, though in two quite distinct ways. According to one of these meanings, the occurrence of an event is a chance happening because it is one of many effects resulting from a given cause. This is the stage of incomplete analysis and plurality of causes and of effects. It is a transitory stage and must disappear when the science becomes more mature. It is the stage in which we make up for the fact that our knowledge is only partial by the substitution of the mathematical theory of probability. For example, one throws a die resulting in a six. This is said to be a matter of chance. Formally it is not necessarily so, for given a certain original position of the die, a certain momentum of throw, a certain degree of resistance exerted by the surface upon which it was thrown, the occurrence of a six follows necessarily. But it did not occur necessarily because, although we knew the cause in general, i.e., the throwing, we did not know it specifically, i.e., the position, momentum, resistance, etc. Hence we have a situation involving plurality of effects and we speak of the occurrence of any one effect as a matter of chance. According to the other of the meanings of chance, the occurrence of an event is a chance happening when it is unforeseen, though not necessarily unforeseeable. This attribution of chance to an occurrence always takes place after the event has occurred. It usually is the result of an attempt to find an explanation for an event which is of great significance in the life of the individual. For example, you are taken ill just as you are about to leave for a trip abroad. Here the causal factors which resulted in your illness may be clearly seen after the event occurs. It all happened because you went without your rubbers during the heavy rain of two days before. But the event is spoken of as a chance happening because it was not anticipated or expected,

i.e., simply because, although you knew the causal relationship between going without rubbers and pneumonia, you did not consider your particular going without rubbers as a premise permitting you to infer pneumonia in your case. Practically every occurrence is a matter of chance in this sense, but we do not attribute chance to all such events simply because we are not interested in accounting for most of the events of our lives. This is one sense in which the Bergsonian conception of freedom is a valid notion. We see necessity when we look at the event in retrospect; in prospect the event is undetermined.

3*c*. Granting the existence of a formal conceptual system, granting also the occurrence of the implicans and our knowledge of this occurrence, there is still a sense in which the occurrence of the implicate is lacking in necessity. Thought can not compel events; the individual can not be completely grasped by thought and no multiplication of universals will ever "produce" the individual. It is an unescapable fact that the class of which an individual may be the only member is not the individual itself. The membership of a class can not be determined by "pure logic." Existence is an empirical concept and not capable of being formulated in logical terms. Consequently no logical necessity can ever compel existence. It has been suggested that the planet Neptune must necessarily have existed because it was necessary that the concept "cause of the misbehavior of the planet Uranus located at a certain quarter of the heavens at a certain time" be particularized. But the notion of such a cause being necessarily particularized is obviously a shadowy ghost beside the existing planet Neptune. For Neptune possesses existence, which the concept did not possess. That is why verification is always so gratifying; it contributes an additional element not found in thought, not capable of being grasped by thought, and not in any way necessitated by thought.

I have made no attempt to give all of the meanings of the term "necessity." Those which I have given seem to be the outstanding meanings, and possibly all other meanings can be derived from these. If some of the problems suggested at the beginning of this paper are not solved by such a discussion as this, they are at least thrown into their proper context.

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BOOK REVIEWS

Proceedings of the Aristotelian Society, 1926–1927. New Series, Vol. XXVII. London: Williams & Norgate. Pp. 399.

The Aristotelian volume for last winter contains some fairly good material. But the reader is struck by the fact that in many of the

papers an excellent idea has largely gone to waste, owing in some cases to a failure to think it through, but more often owing to an inability to write simply, concretely, and effectively.

Of two articles by Professor C. Lloyd Morgan, the Presidential Address, though asking some questions concerning contrast of colors which it would be important for any theory of the status of mental data to consider, is much less definite than the second article, "A Concept of the Organism, Emergent and Resultant." In the latter he welcomes Whitehead's extension of the term "organism," and distinguishes an "emergent" from a simple causal "resultant." While this is a fairly clear restatement of his opinions, the author admits that much still remains to be done to elucidate this theory.

The article by Professor Wolf on Spinoza lays emphasis on the dynamic character of Spinoza's Substance, and criticizes the simple identification of Spinoza's use of the term "cause" with "deductive implication." Spinoza's geometrical illustrations probably do injustice to his intention, but it remains an open question whether, if we accept Professor Wolf's interpretation, we can avoid accusing Spinoza of simply confusing the static and dynamic, instead of organically fusing them. Again we need more elucidation.

Dr. Ivy Mackenzie's denial of conscious sensation to everything below man would be a striking thesis if it were a little better expressed. The same criticism applies to Professor de Burgh's rehabilitation of the "design" argument. And particularly should I have liked to see a more adequate development of Miss Oakeley's thesis that the past is the real, and all consciousness, even including the "specious present," gives direct knowledge only of the past. She indicates her relationship to Bergson's ideas, but her way of putting it has possibilities which she does not adequately exploit. Miss Wrinch's enthusiasm for the "spinning electron" theory of L. V. King does not seem as yet to be shared by most physicists. Mr. Anderson's paper is at times rather clever, as when he inquires whether the "elliptical penny" of several epistemologists is a datum or a construct.

In my opinion one paper in the present volume stands out easily above all the rest. That is the one by Mr. J. MacMurray, and is entitled "The Function of Experiment in Knowledge." Perhaps I am impressed with it beyond its merits because I came to it after having been engaged in looking over several new texts on elementary logic. Mr. MacMurray's paper is so obviously in accordance with part of the truth about scientific thinking, that it might almost pass for commonplace, if the writers of logic texts did not hide the truth from us, leading us off into a land of illusion. I hope I may be pardoned, therefore, if I quote a few passages. The similarity to Professor Dewey's opinions will be noticed at once.

"Science is a method of discovery in which overt practical activity plays an essential part." "Science is based on a double scepticism. It is sceptical of the validity both of pure thought and of sense-perception." "It is not merely logical fallacy of which [the scientist] is suspicious. He claims the right to maintain side by side two mutually exclusive theories of radiation, on the ground that each is experimentally verifiable in a particular region."

"The scientist is just as sceptical of observation as he is of logic." "He relies upon the bare use of his senses as little as possible, and balances observation against observation, and one observer against another." "Indeed, he is always extremely sceptical of any alleged fact which is in logical contradiction with his scientific theory." "Observations must be relevant, not merely relevant to the particular question in mind, but more especially to the stage which theory has reached in its continuous development." "A scientific 'fact' is always a fact in relation to theory, always a generalization."

Scientific observation is "deliberate observation, observation controlled by expectation based upon theory." "Scientific development rests primarily upon those experiments which turn out contrary to expectation. We might almost say that the scientist experiments, not to prove his hypothesis, but to prove it false." "It is thus the perfect weapon of a science whose basis is sceptical and whose aim is the unmasking of ungrounded belief."

"Is it possible [thus] to make ignorance the basis of knowledge, to build truth upon an unshakable scepticism?" "Science, it would seem, has accomplished the impossible." "By giving up the quest of certainty as an impossible task, it has succeeded in becoming the irresistible force which it undoubtedly is."

"Philosophy itself might become scientific." "Like science, philosophy would have to exchange conviction for development, cease to entertain the vain hope of certainty, and supplement its natural scepticism of fact with an equally solid scepticism of theory and speculation." "Could philosophy become experimental? It seems to me not impossible."

How far Professor Dewey would go with Mr. MacMurray in this article, I do not know, but it seems to me to express remarkably well some of the most valuable points in Professor Dewey's "Instrumentalism." In any case I think it notable for the way in which it stresses the double skepticism of science, the indifference with which science disregards everything not relevant to the present stage of development of the theory which happens to be on top at the moment, and the disregard of whether a theory is true or even self-consistent,

if only it is suggestive of new experiments. These things are true about science, and I do not find them mentioned in our logic texts.

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The Wrestle of Religion with Truth. HENRY NELSON WIEMAN. New York: Macmillan Co. 1927. Pp. 256.

Names, as anybody exposed to the solicitations of advertisers knows, are treacherous things, treacherous and powerful. The object they suggest so often rouses an expectancy which the object they present sharply disappoints. *Rosy Face* can designate an eczematous skin. *Box of Happiness* can sour a disposition. Reading *The Wrestle of Religion with Truth,* you think at once of *The Conflict of Religion with Science, The Warfare of Science with Theology,* of John Draper and Andrew White and their careful exposition of the classic attitudes of religionists to new knowledge and new faiths. You expect to find under an analogous title an analogous document, bringing the record up to date, explaining it clarifying it. You find instead a special plea, by an advocate, for a view of religion which seems to me confused in logic and ungrounded in fact. Quite correctly, its author calls his view a philosophy of religion.

Once a Presbyterian minister by training and vocation, with the cachet of professional proficiency in philosophy in the shape of a Ph.D. from Harvard, author of a book on religious experience and scientific method, Mr. Wieman now professes the philosophy of religion in the divinity school of the University of Chicago. His *Wrestle* is, I take it, the philosophy that he professes. If I understand what he says—I feel far from sure—he believes that current religion, modernist as well as fundamentalist, being out of tune with the times, is in a terribly bad way. As science is the outstanding characteristic of the times, religion should attune itself to science. It can do so by adopting the "experimental" method of science in the enterprises of living and the logical technique of science in the definition and organization of religious "concepts."

When, however, Mr. Wieman philosophizes about the actual procedure of science, he condemns it with the condemnation borrowed from the somewhat petulant fooling of Clarence Ayres about science as a false messiah. For precision, measurement, and control, which are the inwardness of experimental method in any field of research, Mr. Wieman exhibits the reverse of a strong liking. His strictures on mathematics and mathematical logic are as vigorous as they are uninformed; his references to aspects of current physical theory do not carry with them any great familiarity with its elements and their

implications; his uses of the word "religion" are such that no real religion need ever have existed to give them meaning. His "philosophy of religion," consequently, provides an apologetic for an abstraction drawn from no recognizable actual cult, an abstraction invented rather than discerned, inapplicable to any namable faith which is a going concern.

The argument of this philosophy runs somewhat as follows: Religion is the one and only method by which men can secure for themselves "goods of supreme value." This method is based upon suppositions which must be true, true in advance of the use of the method, if that is to be applied successfully. The subject-matter of the presuppositions is God, who is "a fact like a stone wall or a toothache," and consists of "that Behavior of the universe which has nurtured human life and which . . . preserves and increases to the maximum the total good of all human living where right adjustment is made." This definition is restated variously and redundantly throughout the book. Sometimes "that Something" is substituted for "that Behavior"; sometimes "order and structure of the universe"; sometimes merely "environment"; and again "most helpful activities of the environment." Sometimes the term is "ultimate cause," "present ultimate sustaining condition of human life" or "realm of unattained possibility." Always God is something we must "get right with," make "right adjustment" or "proper adjustment" to, if we desire the maximum security or "supreme good" that God alone can yield.

This adjustment, which is religious, involves a technique, which Mr. Wieman calls worship—"the only possible way" of organizing and mobilizing the total personality in the adjustment to the Something-God wherein successful living consists. Hence worship is made up of habits, as is prayer; and the habits which are worship are every and any habit that a person may acquire, but especially they are the habits of loafing, suspended judgment, honesty, definiteness, overcoming failure. All that is required of any habit is that it shall be fruitful and multiply. Such a habit brings you nearer to God, while, conversely, a sterile one takes you away from Him. For by your habits shall you know God. What you experience depends on your habits, not they on it; getting right with God is getting habits that determine your perception of him; changing your habits is changing yourself, and thus your world.

And religion enables us to make change better than anything else. It saves us from social wrong-doing, mental misery, impoverished life and worry, by directing the surplusage of our responses to "integration with the fulness of the world." It provides us with "the vision and the certainty" of God. These were attainments of

Buddha, Mohammed, Jesus; but most of all of Jesus; in Him "there shines more of the unexplored and mysterious goodness of this universe than in any other," and He is "hardly above the horizon" at that. Churches are the inevitable fellowships of those who by their habits see and are sure of God, whatever alias God may be known by.

Observed directly, and through the senses, in the religious experience, God's nature appears to be as plural and discrete as the individuals who see him, and yet one and homogeneous, since He is the "underlying condition" into which each mystic's spirit merges while he is seeing God. Essentially God is "underlying condition," "ultimate substance" which, I presume, the accidents composing the universe dissolve into and crystallize from. In the great tradition of philosophy this disarticulate homogeneity is called Matter, but that is another story. "Ultimate substance" involves the notions of "ultimate cause" and "supreme good"; . . . "To attain the supreme good we must get into right relations with the ultimate cause. He who gets right with the ultimate cause will have the supreme good—he who gets wrong with it, the supreme evil."

For a more precise description of this "ultimate cause" and "supreme good," Mr. Wieman, seeking the last word on the matter, draws upon the recent vaticinations of Mr. A. N. Whitehead. This distinguished logistician, having in the course of many years' partnership with Bertrand Russell invented with him a new method for philosophy and discovered a new branch of mathematics, is now in the autumn of his life working out by himself another vindication of that gigantic pathetic fallacy called idealism. Among his devices two stand out. One is a metaphysical use of the theory of relativity. In this mathematical physics, a most abstract and impersonal science, takes into account points-of-view and perspectives, which seem at first blush superlatively concrete and subjective. The other is the ungrounded dogma that relations are internal, a dogma as old as the Eleatics and as irrelevant to the growth and the methods of the sciences. If this dogma is valid, you can not know anything unless you know everything; you can not eat your dinner without consuming the universe; you can not quarrel with your landlord without quarreling with all creation, or suffer from a flea bite without implicating Jehovah. If this dogma is valid, science could not have happened nor history become.

Now, by operating upon the relativists' notion of perspectives with the metaphysicians' dogma that relations are internal, the separate and distinct "point-moments" of "space-time" are transformed into a homogeneous flow of God-knows-what. This flow is then named "the order of nature," "the creative process of nature." There are in it no places, no times, no things; but, like the matter

of Aristotle, it is a potentiality of them all. That they should become actual as the world which societies live in and sciences know requires that the flow shall be penetrated by another order of being —by the system of unchanging, abstract, eternal forms, like the principles of geometry and arithmetic and such, the elements of which likewise are internally related so that you can not have one, without the entire system. Hence it is the entire system which is constantly being incarnated in each item of space-time. A babe or a bishop, a crook or a college president, a mote in the sun or a moron in the seat of the mighty, each is a microcosm focusing in itself all of the macrocosm. Each is a "concretion" of the characterless flow with the determinate character of the entire world. Each is, moreover, like the Leibnitzian monads, a more or less explicit or implicit "concretion." The degree of explicitness defines its "levels of prehension," its station on the ladder of being, from the dimly prehensive electron to the brightly prehensive Messrs. Whitehead and Wieman.

But that form and flux should be brought together at all, is due to no virtue in them. The virtue accrues to them from "the principle of concretion." It is this that compels their coming together. It is the persistent order of all being. It is God. Not concrete himself, he is the cause of concreteness in all things. That is, God is the dogma that relations *are* internal.

This latest frill in theology, arrived at by means of the up-to-the-decade concepts of current physics and up-to-the-century concepts of classical idealism, seems to me to be a sort of distorted Aristotelianism. It has the unstinted approval of Mr. Wieman. He thinks that it is "scientific" and he asserts that it satisfies the "religious tests" of correctly designating "ultimate cause" and "supreme good"; of disposing of the problem of evil (it accounts for evil as anti-concretion, separation, individuality; what the medievals called pride and faction in morals, *haeceitas* in metaphysics); and of validating the religious experience, since it defines the "ultimate substance." He does not say whether it will enable him to foretell the future, or that it can. Nevertheless, he declares the test of truth to be predictability. He does not call this new theology error, although he argues that the reality of the world of subsistence—i.e., the world of Whitehead's "principle of concretion" and system of forms, that compose the nature of the Whiteheadian God—is illusion and error. Not unmistakably either truth or error, the system yet meets Whitehead's "scientific" tests and Wieman's "religious" ones. At the same time Mr. Wieman declares that religion must hate error more and must care more for truth than either science or philosophy. For religion is passionately concerned to know the precise nature of

the "ultimate cause" so that it may attain the "supreme good." And in the persons of great religious leaders like Christ or Buddha or Confucius it does so, "experimentally." Their experimental method is summed up thus: they retire from the world, they meditate, they acquire insight, they return to the world to try out their acquired insight.

Such is the gospel according to Mr. Wieman. It characterizes itself in its own summing up, and that would be enough if it were not at the same time representative of a growing mode of ratiocination which protesting loudly that religion is in need of clear and distinct modern ideas, adds to the current obfuscation and obscurantism by befogging such clear and distinct ideas as it has. I have already mentioned how Mr. Wieman talks about *religion,* and meticulously fails to analyze any actual religion whatsoever. He spreads himself on *worship,* and resolutely refuses to mean by it anything that is usually meant. *Experimental* and its derivatives are his especial favorites; adjectives of final approval which he uses as his grandfather might have used *Christian.* Yet he repudiates the specific meaning of these words, as the highly disciplined technique of the sciences, and intends by them at best nothing more than *tentative,* which, since existence is a stretch we do of time, is what all life is, anti-religious as well as religious. But the use of *experimental* enables him to claim the credit of science while repudiating the characteristics which have won the credit. That is, it is the emotional tone, not the logical import of the expression, which carries its significance for him.

The same thing is true of "ultimate cause" and "supreme good" and the like. The sciences know of no supremacies or ultimates; any attempt to fix their character by an appeal to the changes and chances of religious history or to the observations and inferences of the natural sciences, would abolish them. They would show only arbitrary selections, principles that pass. Current physical science, for example, lays open to doubt the speculative dogma called *determinism;* Mr. Wieman exalts it as a very essential of science. Current science has no use for the hypothesis of substance. Mr. Wieman assures himself of an ultimate one by referring substance to the religious experience. Historical religions have meant various things by the word "God," but they all had at least this in common—that God was somehow providential and purposive, somehow a will or a heart or an intellect or all three; even deists like Voltaire saw him so; Mr. Wieman, on the contrary, draws all the emotional benefit of this use of the word "God," but is at pains not to mention whether his nature has any of the classical divine attributes or not. Historical religions—even so heterodox a religion as

Spinoza's—are all preoccupied with death and immortality; Mr. Wieman's silence on this subject is such that it fairly roars.

The practical and logical bearings of all this upon inherited institutions and doctrines are obvious. But in Mr. Wieman's thinking they do not follow. Religion may be non-specific, but Jesus is still the Most High; the religious experience may imply solitary worship, but the church is still necessary; science may be the only source of verifiable truth, but the Bible is the precious concentration "of these many centuries of worship and experimental living." One religion is no truer than another, but missionaries—of course, Christian ones—have a peculiar justification, as has "religious education" in the public schools. Life consists in adapting yourself to your environment, but adapting yourself to your environment is the same as "getting right with God."

What specifically is this God we must get right with? Mr. Wieman both refuses to say definitely and says as definitely as his understanding of Whitehead enables him to. Most of all, however, God is what is experienced in the religious experience—"ultimate substance," etc. On this point, Mr. Wieman does me the honor to devote a whole chapter to disagreeing with what I have reported on my own studies of the religious experience in my book, *Why Religion.* And I find myself unable to join issue with him precisely because his disagreement derives from arbitrarily assumed metaphysical assumptions, not from an empirical study of religious experiences, of their nature, conditions, contents, and consequences. Those assumptions lead him to attribute to me opinions that I do not hold—namely that religion is illusion to the religionist.

This, however, is an incident and to the present review irrelevant. What is not irrelevant is the obvious fact that a view of religion which sees it as preoccupied with ultmate substances, "supreme good" and the like, is a view which makes of religion a Laputan thing. It makes of "worship" and "getting right with God" an endeavor after assurance of the same kind as that of the sages of Laputa who were distilling sunbeams from cucumbers against the time when the living sun should grow cold. Such a view of religion is possible only when there is no clearness in the hearts of religionists; no articulation in their hopes. A clear heart brings good order into the most muddled head; a heart confused will cause the clearest head to stray.

H. M. KALLEN.

NEW SCHOOL FOR SOCIAL RESEARCH.

JOURNALS AND NEW BOOKS

BULLETIN DE LA SOCIÉTÉ FRANÇAISE DE PHILOSOPHIE. 27e Année, No. 1. L'axiomatique logique et le principe du tiers exclu: Thèse, *M. A. Reymond;* Discussion, *L. Brunschvicg, R. Lenoir, P. Lévy.*

PSYCHOLOGICAL REVIEW. Vol. 35, No. 3. The Absolute Zero in Intelligence Measurement: *L. L. Thurstone.* Intelligence as the Capacity for Variability or Versatility of Response: *A. S. Edwards.* The Theory of Factors, I: *S. C. Dodd.* The Inference of Mind: *D. K. Adams.* A Further Experimental Study of the Development of Behavior: *Leonard Carmichael.*

RIVISTA DI FILOSOFIA. Anno XIX, N. 2. (Roberto Ardigò—nel primo centenario della sua nascita, MDCCCXXVIII–MCMXXVIII.) Prefazione: *G. Tarozzi.* L'idealismo de Roberto Ardigò: *G. Marchesini.* Roberto Ardigò: *L. Credaro.* Il pensiero pedagogico di Robert Ardigò: *E. Galli.* Diritto e società nel pensiero di Roberto Ardigò: *A. Levi.* Rileggendo la "Morale dei Positivisti": *L. Limentani.* Il realismo di Roberto Ardigò: *R. Mondolfo.*

PSYCHOLOGICAL BULLETIN. Vol. 25, No. 4. Visual Sensations: A Review of the Literature for 1926 and 1927: *L. L. Sloan.* Facts and Theories of Audition: *C. A. Ruckmick.* Apparent Movement: *P. C. Squires.*

Archives de Philosophie, Vol. V, Cahier III. Bibliographie critique par J. Abelé, J. de Blic, Ch. Burdo, P. Descoqs, J.-R. Duron, A. Etcheverry, J. Mertens, P. Monnot, B. Romeyer, R. de Sinéty, J. Souilhé. Paris: Gabriel Beauchesne. 1928. 323 pp.

Bogoslovsky, Boris B.: The Technique of Controversy. Principles of Dynamic Logic. (International Library of Psychology, Philosophy, and Scientific Method.) New York: Harcourt, Brace & Co. 1928. London: Kegan Paul, Trench, Trubner & Co., Ltd. xiii + 266 pp. $4.00.

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Durkheim, Émile: Le Socialisme. Sa définition—ses debuts. La doctrine Saint-Simonienne. Edité par M. Mauss. (Bibliothèque de Philosophie Contemporaine.) Paris: Félix Alcan. 1928. xi + 352 pp. 50 frcs.

Leroy, Maxime: Fénelon. (Réformateurs Sociaux—Collection de Textes dirigée par C. Bouglé.) Paris: Félix Alcan. 1928. 115 pp. 12 frcs.

Rignano, Eugenio: Problemi della Psiche. Bologna: Nicola Zanichelli. 1928. 212 pp. L 20.

NOTES AND NEWS

In recognition of thirty-three years of distinguished service to psychology, a volume entitled *The Washburn Commemorative Volume* has been dedicated to Professor Margaret Floy Washburn, of Vassar College, by her colleagues. It contains a series of thirty-two studies and is published by the American Journal of Psychology, Cornell University. The Table of Contents is as follows:

Washburn's Motor Theory: A Contribution to Functional Psychology: *T. M. Abel.* The Conflict Theory of Emotion: *R. P. Angier.* Environment and Context: *M. Bentley.* The Problem of Originality in Science: *E. G. Boring.* The Ambiguous Concept: Meaning: *M. W. Calkins.* The James-Lange Theory of Emotions: A Critical Examination and an Alternative Theory: *W. B. Cannon.* The Temperature Spots and End-Organs: *K. M. Dallenbach.* Protopraxic and Epicritic Stratification: *R. Dodge.* Individual Differences in Reaction to the Word-in-Itself: *J. E. Downey.* A Project for Investigating the Facial Signs of Personality: *K. Dunlap.* Six More Piderit Faces: *S. W. Fernberger.* A Study of Three Variables in Memorizing: *E. A. McC. Gamble.* Comparative Psychology and Psychopathology: *G. V. Hamilton.* Concepts and "Isms" in Psychology: *J. Jastrow.* Reduction of Articulation: *C. H. Judd.* Apparent Visual Movement with a Stationary Stimulus: *H. S. Langfeld.* A Bibliography of the Writings of Margaret Floy Washburn, 1894–1927: *H. K. Mull.* A Note on Recognition: *E. Murray.* The Psychology of Felt Experience: *J. P. Nafe.* Learning as Improvement: *R. M. Ogden.* Locomotion and Righting Movements in Echinoderms, especially in Echinarachnius: *G. H. Parker.* Forced Adjustment *vs.* Association in Constructive Learning and Thinking: *J. Peterson.* What is Native in the So-called Instincts?: *W. B. Pillsbury.* The Effects of Continuous Mental Work: *A. T. Poffenberger.* The "Similarity" Factor in Retroaction: *E. S. Robinson.* The Rhythmical Experience from the Systematic Point of View: *C. A. Ruckmick.* A Base for the Approach to Quantitative Studies in the Aesthetics of Music: *C. E. Seashore.* Anger and Fear: Their Probable Relation to Each Other, to Intellectual Work, and to Primogeniture: *G. M. Stratton.* The Law of Effort: *E. L. Thorndike.* Outline of a Psychological Standpoint: *H. C. Warren.* *Gestalt* Psychology and the Concept of Reaction Stages: *R. S. Woodworth.* A Program of Anthropoid Research: *R. M. Yerkes.*